

## **WHAT IS CLAIMED IS:**

1. An image display system comprising:  
an illumination system, comprising:  
a light source,  
a color separator which separates an incident light beam according to color,  
and  
a scrolling unit, comprising at least one lens cell, which converts a rotation of the lens cell into a rectilinear motion of an area of the lens cell through which light passes;  
a light valve,  
which processes color beams, into which the light beam emitted from the illumination system is separated and which are scrolled, according to an input image signal, and  
which forms a color image;  
a polarization beam splitter, which transmits or reflects incident light beams according to polarization so that a light beam received from the illumination system advances toward the light valve and so that a light beam reflected by the light valve advances toward a projection lens unit; and  
at least one polarizing element, which is installed on at least one of a path of light traveling from the light source toward the polarization beam splitter and a path of light that is reflected by the light valve and travels toward the projection lens unit via the polarization beam splitter and which transmits only a light beam with a specific polarization.
2. The image display system of claim 1, wherein the light valve is a reflective liquid crystal display.

3. The image display system of claim 1, wherein the at least one polarizing element is a non-absorption polarizing element.

4. The image display system of claim 3, wherein the at least one polarizing element is one of a wire grid polarizer, a reflective polarizer, and a polarization beam splitter.

5. The image display system of claim 4, wherein the at least one polarizing element is at least one of a polarizer installed between the illumination system and the polarization beam splitter and an analyzer installed between the polarization beam splitter and the projection lens unit.

6. The image display system of claim 3, wherein the at least one polarizing element is at least one of a polarizer installed between the illumination system and the polarization beam splitter and an analyzer installed between the polarization beam splitter and the projection lens unit.

7. The image display system of claim 1, wherein the polarizing element is a polarizer installed in front of the polarization beam splitter and/or an analyzer installed between the polarization beam splitter and the projection lens unit.

8. The image display system of claim 1, wherein the illumination system further comprises a polarization conversion system which converts a light beam emitted from the light source into a light beam with a single linear polarization.

9. The image display system of claim 1, wherein the at least one lens cell of the scrolling unit is spirally formed.

10. The image display system of claim 9, wherein the at least one lens cell of the scrolling unit is a cylindrical lens.

11. The image display system of claim 1, wherein the at least one lens cell of the scrolling unit is a cylindrical lens.

12. The image display system of claim 9, wherein the scrolling unit is a disk.

13. The image display system of claim 1, wherein the scrolling unit is a disk.

14. The image display system of claim 1, wherein when the scrolling unit rotates, a lens array moves rectilinearly in a direction being closer to or distant from a rotation center of the scrolling unit.

15. The image display system of claim 1, further comprising first and second fly-eye lenses, installed between the scrolling unit and the light valve, each comprising a plurality of lens cells corresponding to the lens cells of the scrolling unit, so that light beams passed through the scrolling unit are transmitted in a one-to-one correspondence.

16. The image display system of claim 15, further comprising a relay lens, installed between the second fly-eye lens and the light valve, which transmits light beams passed through the second fly-eye lens so that light beams of different colors are focused on different locations on the light valve.

17. The image display system of claim 15, further comprising a plurality of cylindrical lenses disposed in front of and behind the scrolling unit so as to control the width of a light beam incident upon the scrolling unit.

18. The image display system of claim 1, further comprising a plurality of cylindrical lenses disposed in front of and behind the scrolling unit so as to control the width of a light beam incident upon the scrolling unit.

19. The image display system of claim 1, wherein the color separator comprises a plurality of reflective dichroic filters to separate a light beam emitted from the light source according to wavelength.

20. The image display system of claim 1, wherein the color separator separates the light beam emitted from the light source into a plurality of color beams by selectively reflecting light with a specific wavelength from the light beam emitted from the light source.